College Algebra, Section 5.2, #44
Logarithmic Functions; Properties of Logarithms

Demand *Suppose that the demand function for a product is* $p = \dfrac{500}{ln(q+1)}$*, where* p *is the price per unit and* q *is the number of units demanded. What price will give a demand for 6400 units?* [1]

Let $q = 6400$ units and solve for the price, p.

$$p = \frac{500}{ln(q+1)}$$

$$p = \frac{500}{ln(6400+1)}$$

$$= \frac{500}{ln(6401)}$$

$$\approx \frac{500}{8.7642}$$

$$\approx 57.0503$$

The price that will give a demand for 6400 units is \$57.05 per unit.

[1] Harshbarger/Yocco, *College Algebra In Context, 5e*, p. 341, #44.